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- (71) Applicant (for all designated States except US): **NEOSE TECHNOLOGIES INC.** [US/US]; 102 Witmer Road, Horsham, Pennsylvania 19044 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **DEFREES, Shawn** [US/US]; 126 Filly Drive, North Wales, Pennsylvania 19454 (US).
- (74) Agent: **MORGAN, LEWIS & BOCKIUS LLP**; 2 Palo Alto Square, 3000 El Camino Real, Suite 900, Palo Alto, CA 94306 (US).
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(54) Title: **BRANCHED WATER-SOLUBLE POLYMERS AND THEIR CONJUGATES**

(57) Abstract: The present invention provides branched water-soluble polymers that allow two or more water-soluble polymers to be conjugated to another species. The branched polymers provide access to therapeutic agents that are conjugated at a single site to two or more water-soluble polymers. The branched polymers are based upon branch points that are simple branched alkyl structures, reactive side-chain amino acids and small peptides of reactive side-chain amino acids, and saccharides. Also provided is a method for preparing mono-disperse poly(ethylene glycol) of a well-defined and determinable molecular weight, and a method for the rational end-functionalization of poly(ethylene glycol). Conjugates of the branched water-soluble polymers with diverse species, e.g., peptides, lipids, glycolipids and small molecules are also provided.

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